

**Amendments to the Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims:**

Claim 1 (currently amended): A method for arbitrating a resource comprising:  
setting n weight values for n bidders;  
setting n accumulator values for the n bidders, wherein the n accumulator values are based at least in part on the n weight value;  
granting one of the n bidders ~~to receive~~ access to the resource based at least in part on the accumulator value, and then decrementing the selected bidder's accumulator value; and  
increasing the accumulator value within a predetermined range by a variable amount based on the accumulator value for the n-1 losing bidders, wherein a probability of the n-1 losing bidders for accessing the resource is increased based on a respective standing of the accumulator value within a the predetermined range of values for the accumulator value for the n-1 losing bidders.

Claim 2 (cancel)

Claim 3 (cancel)

Claim 4 (original): The method of claim 1 wherein the accumulator values are initially set to a midpoint of a range.

Claim 5 (currently amended): The method of claim 1 ~~herein~~ wherein the range of values is based on a quartile, the accumulator value is incremented by one if the accumulator value is within 76-99% of the range, the accumulator value is incremented by two if the accumulator value is within 51-75% of the range, the accumulator value is incremented by three if the accumulator value is within 26-50% of the range, the accumulator value is incremented by four if the accumulator value is within 0-25% of the range.

Claim 6 (currently amended): An apparatus to arbitrate access to a resource comprising:

a plurality of n registers to store n weight values;

a plurality of n accumulators to each receive a request to the resource and to accumulate and store n accumulator values, wherein the n accumulator values are based at least in part on the n weight values;

a comparator, coupled to the plurality of accumulators, to grant access to one of the requests based at least in part on the past history of granted requests and the n accumulator values.

Claim 7 (currently amended): The apparatus of claim 6 wherein the comparator is to decrement the accumulator decrements a weight value of the accumulator that was granted access to their request in an amount corresponding to the n weight value associated with the accumulator.

Claim 8 (currently amended): The apparatus of claim 6 wherein the past history of granted requests is based on the accumulator's value being incremented if it was not granted access and is based on a quartile analysis as follows: the accumulator value is incremented by one if the accumulator value is within 76-99% of the a range for the corresponding accumulator, the accumulator value is incremented by two if the accumulator value is within 51-75% of the range, the accumulator value is incremented by three if the accumulator value is within 26-50% of the range, the accumulator value is incremented by four if the accumulator value is within 0-25% of the range.

Claim 9 (original): The apparatus of claim 7 wherein the weight value for each accumulator is initially set according to a priority of the request.

Claim 10 (cancel)

Claim 11 (currently amended): The apparatus of claim [[10]] 8 wherein ~~the~~ a bidder that is to provide the request is either one of a modem, keyboard, video controller, serial port, or PCMCIA card, SONET interface, Ethernet Interface, content processor, encryption device, or compression device.

Claim 12 (original): The apparatus of claim 6 wherein the resource may be an interconnect bus, memory unit, or output buffer.

Claims 13 - 14 (cancel)

Claim 15 (currently amended): An article comprising a storage medium storing instructions that, when executed result in:

arbitrating a resource among a plurality of bidders, ~~ach~~ each one of the bidders with an accumulator value ~~for the plurality of bidders~~; and

granting one of the [[n]] plurality of bidders ~~to receive~~ access to the resource based at least in part on the accumulator value, and then decrementing the selected bidder's accumulator value; and increasing the accumulator value by a variable amount within a predetermined range for the n-1 losing bidders, the variable amount based on the accumulator value wherein a probability of the n-1 losing bidders for accessing the resource is increased based on a respective standing of the accumulator value within the predetermined range.

Claim 16 (currently amended): The article of claim 15 further comprising setting weight values for the plurality of bidders, wherein the weight values are initially set to a priority of each of the plurality of bidders.

Claim 17 (cancel)

Claim 18 (currently amended): A system comprising:  
a processor;  
a dynamic random access memory, coupled to the processor;  
a plurality of bidders to access a resource;  
an arbitration logic with a plurality of n registers to store n weight values to be configured by a user;  
a plurality of n accumulators to accumulate and store n accumulator values and to each receive a request from [[a]] the plurality of bidders of the resource, wherein the n accumulator values are based at least in part on the n weight values and initial values of the n accumulator values are to be configured by the user;  
a comparator, coupled to the plurality of n accumulators, to grant access to one of the requests based at least in part on the past history of granted requests and the n accumulator values.

Claim 19 (currently amended): The system of claim 18 wherein the comparator arbitration logic is to decrement the accumulator decrements a weight value of the accumulator that was granted access to their request in an amount corresponding to the weight value of the corresponding bidder.

Claim 20 (currently amended): The system of claim 18 wherein the arbitration logic is to perform performs a quartile analysis on each of the losing bidders such that the accumulator value associated with each of the losing bidders is incremented by one if the accumulator value is within 76-99% of the a range for the corresponding accumulator, the accumulator value is incremented by two if the accumulator value is within 51-75% of the range, the accumulator value is incremented by three if the accumulator value is within 26-50% of the range, the accumulator value is incremented by four if the accumulator value is within 0-25% of the range.

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Claim 21 (new): The method of claim 1, further comprising decrementing the selected bidder's accumulator value by a variable amount.

Claim 22 (new): The method of claim 21, wherein the variable amount corresponds to the weight value for the selected bidder.

Claim 23 (new): The method of claim 1, further comprising enabling a user to set the n weight values and the n accumulator values.

Claim 24 (new): The apparatus of claim 6, wherein each of the plurality of n registers is coupled to a corresponding one of the plurality of n accumulators.

Claim 25 (new): The apparatus of claim 6, wherein the n weight values and the n accumulator values are to be user configured.